

United States
Department of the Interior
Bureau of Land Management

Miles City Field Office

Bell Creek
Vertical Seismic Profile
(VSP) Test

Categorical Exclusion (CX)
DOI-BLM-MT-C020-2013-0027-CX

For Further Information Please Contact:

Bureau of Land Management
Miles City Field Office
111 Garryowen Road
Miles City, Montana 59301
406-233-2800

BLM



UNITED STATES DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT
Miles City Field Office
111 Garryowen Road
Miles City, Montana 59301

CATEGORICAL EXCLUSION REVIEW AND APPROVAL

A. Background

BLM Office: Miles City Field Office Lease/Serial/Case File No.: MTM103932 &

NEPA Number: DOI-BLM-MT-C020-2013-027-CX

Proposed Action Title/Type: Resource Acquisition Services, LLC (RAS), Bell Creek
Vertical Seismic Profile (VSP) Test

Location of Proposed Action:

Montana:

T. 9 S., R 53 E.;

Section 01: S $\frac{1}{2}$ SE $\frac{1}{4}$	(80 acres)
Section 12: NE $\frac{1}{4}$,NW $\frac{1}{4}$ SE $\frac{1}{4}$	(200 acres)
Section 26: NE $\frac{1}{4}$ NE $\frac{1}{4}$	(80 acres)

T. 9 S., R 54 E.;

Section 06: Lot 4 (37.18),SE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$	(117.18 acres)
Section 07: Lots 1 (37.21), 2 (37.24), NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$,	(354.45 acres)
Section 08: SW $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$,	(120 acres)
Section 18: NW $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$,	(80 acres)

	<u>Acres</u>
BLM Acres	951.63
State Acres	213.00
Private Acres	<u>6345.37</u>
Total	7510.00

Description of Proposed Action:

Resource Acquisition Services, LLC is planning to conduct the VSP survey on behalf of Denbury Onshore LLC in Powder River County as shown on the attached map. A portion of the project is proposed on BLM lands administered by the Miles City Field Office. The energy source for this survey will be primarily use of buggy-mounted vibroseis trucks. The VSP test is located within the recent September 2012 Bell Creek 3-D Outline.

Surface Ownership: Number of acres and square miles/sections in project

BLM Lands: Total acres = 951.63 acres Total Square Miles/Sections = 1.49 sections

Montana State Lands: Total acres = 213 acres Total Square Miles/Sections = 0.33 sections

Private Lands: Total acres = 6345.37 acres Total Square Miles/Sections = 9.91 sections

Project Totals: Total acres = 7,510 acres

Total Square Miles/Sections = 11.73 sections

Project Parameters:

Source and Receiver Lines and Points

Source: Total number of source points = 1149 source points

BLM Lands: Approximately 479 source points

Montana State Lands: Approximately 23 source points

Private Lands: Approximately 647 source points

The source point lines will be aligned in a SW/NE direction across the project.

Total Source Lines = 32 lines

Source Point Interval = 500 feet

Source Line Interval = 575 feet between source lines

Total Source Line Lengths = 457,379 feet

Receiver: Total number of receiver points

The receivers (geophones) will be placed vertically down the well bores described below:

Well #1 SE/4NW/4 Section 5, Township 9S, Range 54E

Well #2 SW/4NW/4 Section 8, Township 9S, Range 54E

Survey Crew Operations

Initially the surveyors will perform a hazard survey to locate and map the existing oil, gas, and water wells, pipelines, power lines, and any other structures or facilities in the project area to determine where the source points can be located safely. After the hazard survey is finished they will locate and mark the source points with a stake/pin flag using the GPS method. There will be 3 people on the survey crew and they will cross on foot and ATVs to deploy the source points. Trucks used on BLM land will be limited to the roads and trails. There will be no off-road vehicle traffic by vehicles other than ATVs at any time while on BLM lands. Resource Acquisition Services, LLC, plans to commence survey operations as soon as the necessary permits have been obtained. Their work will take approximately 4 weeks to complete the entire project.

Drill Crew Operations as needed for infill

No drilling of any kind will be needed for the VSP test. It will be Vibe ONLY.

Recording Crew Operations

There will be about 20 personnel on the recording crew. This phase of the project will be conducted using trucks, UTV's or on foot to deploy equipment. Once deployed the crew will vibrate the individual source points and record the data.

Data Acquisition

This phase will consist of 2 buggy mounted vibroseis vehicles being used at the designated source. The vibrate buggies are equipped with wide flotation type tires which minimize any potential impacts to the ground. At these source points the buggies will set up in single file, lower a 6 foot by 4 foot pad onto the surface and then shake the ground providing the energy source required to obtain the seismic data. The buggies will not work in wet and muddy conditions. There will be one truck mounted recording unit containing the electronic equipment required to record and obtain the seismic data. All vehicles, with the exception of UTV's will stay on the road and trails authorized by BLM.

The seismic contractor plans to begin recording and vibroseis as soon as the permit is approved. The project will take approximately 30 days to complete if there are not delays due to inclement weather or equipment malfunctions.

Equipment Removal and Clean-Up

The project clean-up will begin during the data acquisition phase and as the work progresses the equipment that is no longer needed will be picked up and removed as well as any stakes, flags, flagging, and any other materials used in the project and taken back to the staging area. During the clean-up phase the seismic lines will be inspected to insure that all lands in the project area are in the same condition as prior to the survey.

Safety Procedures

Crew personnel on all crews will wear hard hats and fluorescent safety vests whenever they are engaged in any activities on the seismic lines. There will be a minimum of one (1) radio with each individual crew to insure an immediate response from the Safety Coordinator in the event of an accident or injury to crew members. An Emergency Response Plan (ERP) will be prepared by the Safety Coordinator with an evacuation plan to the nearest hospital as well as phone numbers for the local fire departments, law enforcement agencies, and hospitals. The ERP will be provided to this office if requested.

Proposed Offset Distances for Source Points

Dawson surveyors will contact the Montana "Call Before You Dig" system to locate and mark any buried pipelines or other utilities and coordinate these activities with survey crew operations if drilling is required.

1. Oil, gas, and water wells, springs, buildings or structures with a fixed foundation:
Vibroseis source points: 500 feet
2. Buried pipelines less than 6 inches in diameter: 20 feet
3. Buried pipelines 6 to 12 inches in diameter: 20 feet
4. Buried pipelines greater than 12 inches in diameter: 50 feet
5. Surface pipelines of any diameter: 20 feet

6. Overhead electric power lines and telephone lines: 100 feet
7. Buried electric lines: 50 feet
8. Buried telephone lines: 50 feet

Crew Vehicles and Equipment

Permit Agents

1 half ton 4WD trucks

Survey Crew

1 half ton 4WD trucks

1 ATVs—UTVs

Archaeology Crew

2 half ton 4WD trucks

Drill Crews

N/A

Recording Crew

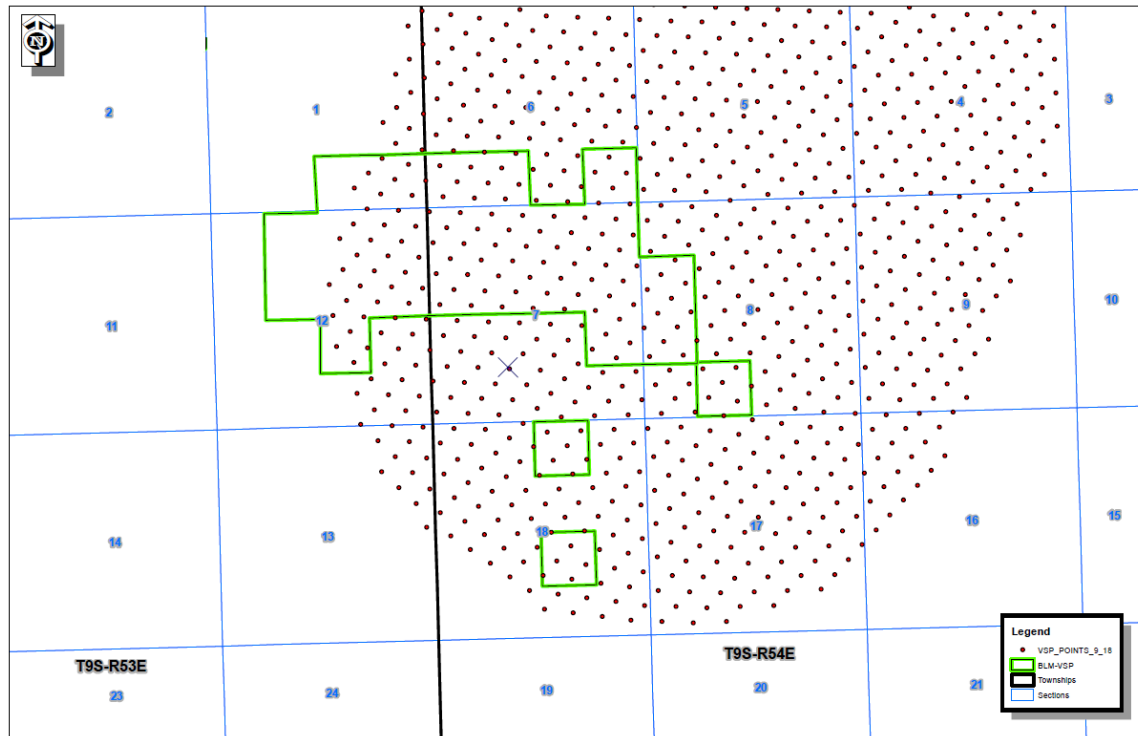
2 half ton pickups

5 1 ton pickups

5 ATV/UTV's

2 Buggy Mounted Vibes

(Figure 1) Seismic Proposal Map for the Bell Creek 3D Seismic Survey.



B. Land Use Plan Conformance

Land Use Plan Name: Powder River Resource RMP/EIS of March 1985, as amended (1994 Oil and Gas RMP/EIS Amendment; 2003 Final Statewide Oil and Gas EIS; and the 2008 Final Supplement to the Montana Statewide Oil and Gas EIS). The proposed action is in conformance with the applicable LUP because it is specifically provided for in the following LUP decision(s): On page 127, the chapter, “Geophysical Management” summarizes requirements and procedures in accordance with the Code of Federal Regulations at 43 CFR 3150 and 3151.

C. Compliance with NEPA

The Proposed Action is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with Part 516 DM 11.9 B (6), The new CX for approval of Notices of Intent to conduct geophysical exploration of oil, gas or geothermal operations under the regulations at 43 CFR 3150 and 3151 is found at 72 CFR 4 5539, Section 11.9B(6).

This categorical exclusion is appropriate in this situation because there are no extraordinary circumstances potentially having effects that may significantly affect the environment. The proposed action has been reviewed as documented below and none of the extraordinary circumstances described in Part 516 DM 11.9 B (6) apply.

Extraordinary Circumstances		
The project would:		
1. Have significant impacts on public health or safety.		
Yes	No X RCL 10/31/12	Rationale: <i>The Vibroseis® project will use sonic waves emitted by vibrator buggies. Drilled shot-holes will be used in areas the vibroseis buggies cannot access safely. Buildings will be avoided by at least 200'-400'; pipelines by 140'-350'; and water wells and springs by 350'. Pickup trucks and mechanical maintenance vehicles will drive on existing roads and meet the Vibroseis® vehicles for maintenance and refueling at the intersections, and will not follow along for the entire route of source lines. The project area is located in a sparsely populated area several miles from any municipality.</i>
2. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas.		
Yes	No X JCH 11/1/12	Rationale: <i>BLM lands in the project area do not include any of the listed natural resources. Habitat for migratory birds is present in the project area. However, activities associated with the project will occur after August 1, therefore minimizing potential impacts to migratory bird nesting activities.</i>
3. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA section 102 (2) (E)].		
Yes	No X RCL 10/31/12	Rationale: <i>The potential impacts from the proposed project are not expected to be controversial or involve unresolved conflicts. The potential impacts from the proposed project would be similar to impacts observed and documented from similar geophysical projects conducted in similar environments.</i>
4. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.		
Yes	No X RCL 10/31/12	Rationale: <i>The potential impacts from the proposed project are not highly uncertain or involve unique or unknown environmental risks. The potential impacts from the proposed project would be similar to impacts observed and documented from similar geophysical projects conducted in similar environments.</i>
5. Establish a precedent for future action or represent a decision in principal about future actions with potentially significant environmental effects.		

Yes	No X RCL 10/31/12	<p>Rationale: <i>Approval of the proposed action would not set a precedent for future actions or represent a decision in principle about future actions because the geophysical project obtains data. The data may or may not result in other geophysical projects conducted in the same area or the drilling of oil and gas wells in the project area. Any future proposals would be independently analyzed and a potential approval would not be connected to this particular action.</i></p> <p><i>Therefore, approval of this action does not represent a decision in principle about any future actions.</i></p>
6. Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.		
Yes	No X RCL 10/31/12	<p>Rationale: <i>No it does not, see CFR 1508.7. The predominant activities in the general area are agriculture and raising livestock. There is some oil and gas production within a mile of the project area. It cannot be demonstrated that there would be any direct relationship resulting from this project to any other actions that would result in cumulatively significant environmental effects. Any effects such as exhaust and noise will be short term and very temporary. The vibrations will only be locally distributed and noticeable through the ground for a few hundred feet.</i></p>
7. Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by either the bureau or office.		
Yes	No X DM 11/08/12	<p>Rationale: All of the BLM managed lands in the project have been block inventoried at the Class III level. Inventories in 2009 did not identify any eligible sites on BLM managed lands in the project area. The remaining BLM managed lands were inventoried for cultural resources in June 2012. This inventory identified 12 cultural sites on BLM and State of Montana lands. One site on BLM managed lands was recommended as eligible for listing on the National Register of Historic Places. The remaining eleven sites were recommended as not eligible. BLM lands were also examined for paleontological resources in the Hell Creek Geologic Formation and Tullock Member of the Fort Union Geologic Formation. The paleontological inventory identified a total of 11 fossil localities on public lands in the project area. Two of the localities consisted of plant impressions and five consisted of unidentifiable fossil bone. These are not considered paleontological significant. The other five localities consist of identifiable fossil vertebrates (turtle, dinosaur, crocodile, and other vertebrates) and are considered paleontologically significant (See BLM Cultural Resources Report MT-020-13-29)</p> <p>All cultural sites and paleontological localities in the project area were recommended for avoidance by 150 feet. Based on the avoidance of all cultural sites and paleontological localities in the</p>

		project area, the proposed action would have no effect to historic properties subject to the special conditions and Condition of Approval No. 16
8. Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species.		
Yes	No X JCH 11/1/12	Rationale: No threatened or endangered species or habitats exist within the area of the proposed action.
9. Violate a Federal law, or a State, local or tribal law or requirement imposed for the protection of the environment.		
Yes	No X JCH 11/1/12	Rationale: <i>The analysis of the proposed action has indicated that the project would not violate any Federal law or a State, local or tribal law or requirement imposed for the protection of the environment.</i>
10. Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898).		
Yes	No X RCL 10/31/12	Rationale: <i>populations of low income or minority populations (Executive Order 12898) are not present therefore impacts would not occur.</i>
11. Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007).		
Yes	No X DM11/08/2012	Rationale: The proposed action would not limit access to public lands where it already exists nor would it allow new access where it does not presently exist. All cultural sites would be avoided by the proposed action, there would be no impacts which would physically affect the integrity of sacred sites on public lands in the project area.
12. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112).		
Yes	No X RCL 10/31/12	Rationale: <i>Introduction as well as spread of noxious weed seeds would have a potential as this project would occur during the summer and fall months. The contractor would be required to wash equipment when leaving infested areas and for treating any new infestations that occur within the project area.</i>

Environmental Coordinator

11/16/2012
Date

I have considered the proposed action, the BLM handbook H-3150-1 entitled Onshore Oil and Gas Geophysical Exploration Surface Management Requirements, BLM Standard Terms and Conditions and the Special Conditions of Approval (attached below). I have determined that the use of this CX is appropriate as it is in compliance with the requirements found within Part 516 DM 11.9 B (6), and I have decided to implement this action.

D: Signatures

[Handwritten signature]

Approved By: _____
 Todd Yeager
 Field Manager
 Miles City Field Office

11/16/2012
Date

Contact Person

For additional information concerning this CX review and decision, contact Rick Lang, Natural Resource Specialist.

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Special Conditions of Approval Applicable to BLM Surface Lands

1. Cultural Resource Avoidance Requirements: All designated cultural sites and paleontological localities will be avoided by land disturbing activities in a 150 foot buffer of the site.
2. Snowplowing on BLM surface is not allowed.
3. The BLM shall be notified at least 3 days and no more than 14 days before entering onto public lands. If conditions have changed, additional terms and conditions may be necessary.

4. All geophysical operations will be conducted in accordance with BLM Handbook H-3150-1 and Manual (copies attached).

5. Surface disturbance is not allowed. However, if surface disturbance accidentally or unavoidably occurs, the disturbance must be reclaimed. Contact this office prior to conducting remedial reclamation actions for approval to proceed with reclamation and further instructions.

6. The operator will adhere to setbacks and buffers as set forth in the BLM Manual H-3150-1 (copy attached) as well as the following table:

Minimum Offset in Feet for Vibrator Truck Operations:

Object	Offset
Riparian areas, springs, waterbodies, streams, and wetlands	350

7. No refueling, overnight parking of vehicles, or staging areas will be located within 500 feet of waterbodies, streams (including intermittent and ephemeral streams), springs, riparian areas, or wetlands.

**H-3150-1 – ONSHORE OIL AND GAS GEOPHYSICAL EXPLORATION
SURFACE MANAGEMENT REQUIREMENTS (PUBLIC)**

BLM Standard Terms and Conditions

1. The operator shall contact the Field/District Office at least 48 hours prior to the start of the project to schedule a pre-work conference. The crew supervisor and additional crew chiefs (if needed) will attend the pre-work conference to discuss the terms and conditions for this operation.
2. The operator's representative will attend a meeting with the BLM to discuss cultural artifacts and potential penalties for tampering with cultural artifacts. The meeting can be held as part of the pre-work conference.
3. The operator will obtain permission from right-of-way holders prior to drilling and setting charges within authorized limits of the rights-of-way.
4. Existing routes and trails will be used to the maximum extent possible. The heliportable drill or other BLM approved technique will be used on the areas with steep slopes and rough terrain. Attempts to traverse irregular, soft, or steep slopes and terrain by all vehicles and equipment shall be kept to a minimum to avoid excessive rutting, soil erosion, excessive crushing of vegetation, and excessive visual impacts. Vehicular travel along the flagged lines will be kept to a minimum and be in a zigzag pattern between source points to reduce straight line disturbances. This procedure does not apply to vehicles following trails or roads.
5. Vehicular travel shall be suspended when ground conditions are wet enough to cause rutting or other noticeable surface deformation and severe compaction. As a general rule, if vehicles or other project equipment create ruts in excess of four inches deep when traveling cross-country over wet soils, the soil shall be deemed too wet for vehicular use.
6. The staging area(s) will be situated with good, safe access to county roads or state highways. The fuel truck for the helicopter will also be utilized at the staging area(s).
7. The staging area(s) shall be kept clean and free of litter. Appropriate human waste facilities will be provided and properly maintained. Such waste facilities shall be removed from the site upon completion of the project.
8. Roads will not be constructed for geophysical projects authorized under a categorical exclusion.
9. Operators of vehicles and equipment shall be responsible for not damaging fences and keeping gates as found. As a last resort, should a fence be cut for access, that fence must be repaired to former or better condition, after equipment has passed through.
10. Shot holes will be backfilled and plugged, in accordance with state regulations, after they are loaded with the explosive charge. Any cuttings resulting from shot hole drilling and not used in

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01/09/07

**H-3150-1 – ONSHORE AND GAS GEOPHYSICAL EXPLORATION
SURFACE MANAGEMENT REQUIREMENTS (PUBLIC)**

backfilling the shot hole will be scattered about the immediate area to blend with natural terrain and reduce visual impacts.

11. Geophysical equipment may encounter congested areas with trees requiring one or more trees to be removed and or limbed. If such action is needed then the tree(s) and or limb(s) shall be less than eight (8) inches at diameter breast height (dbh) or at the base of the branch. Trees to be cut or limbed which are located adjacent to public roads, communities and or public facilities shall be immediately cut into smaller pieces so that it is not aesthetically displeasing and dispersed within the immediate vicinity.

12. Any and all tire tracks one hundred feet (100'), leading away from an established dirt or two-track road situated on public lands, will be hand raked to blend into the surrounding soil surface.

13. If soil is disturbed to the extent that erosion is likely or visual impacts are readily apparent, the disturbed areas will be rehabilitated utilizing the following techniques:

Ruts and vehicle tracks will be filled with soil and/or obliterated by either hand raking or similar method. When completing this work, care will be taken to minimize disturbance to surrounding lands that have not been disturbed. All areas where rehabilitation work is accomplished will be reseeded with the seed mixtures specified below:

Seed Mix

(To be provided by the local BLM Field/District Office.)

The seeded area should be hand raked to assure the seed is covered with approximately ¼ to ½ inch of soil. This seeding should be accomplished during the late fall, in October or November, before moisture conditions become prohibitive.

The seed shall be certified, pure live seed, and seed tags must be available if requested by the authorized officer. Certified weed free seed is to be used to rehabilitate disturbed land.

14. Setbacks and Buffers: the operator will adhere to setbacks or "buffer zones" that are set forth in the following tables.

**H-3150-1 – ONSHORE OIL AND GAS GEOPHYSICAL EXPLORATION
SURFACE MANAGEMENT REQUIREMENTS (PUBLIC)**

**Offset in Feet, from Certain Objects
(based on pounds of explosive charge)**

Object	½ lb	1 lb	2 lbs	3 lbs	5 lbs	6 to 10 lbs	11 to 15 lbs	16 to 20 lbs
Pipeline less than 6" diameter	50'	100'	150'	150'	200'	250'	300'	400'
Pipeline 6" to 12" diameter	75'	150'	200'	200'	300'	400'	500'	600'
Pipeline greater than 12" diameter	100'	200'	250'	250'	300'	500'	600'	800'
Telephone line	20'	20'	30'	40'	40'	50'	50'	50'
Railroad Track or main paved Highway	50'	100'	150'	150'	150'	220'	280'	350'
Electric Powerline (Shot holes not to exceed 200' depth)	75'	100'	200'	200'	200'	200'	250'	300'
Water wells, buildings, underground cistern, and all other similar objects	225'	300'	400'	450'	700'	800'	1000'	1200'
Brick and/or concrete block buildings	275'	400'	500'	600'	800'	1000'	1200'	1500'
Producing oil and gas well	250'	450'	600'	700'	800'	900'	1000'	1000'
Irrigation wells	500'	800'	1000'	1200'	1500'	2000'	2500'	2500'

Minimum Safe Offset In Feet for Vibrator Truck Operations

Structures	Distance (ft)
Residences, Buildings, Concrete Base Structures	300
Water Wells	350
Concrete Water Pipeline	100
PVC/Plastic Water Pipeline	20
Oil or Gas Well	250
Oil or Gas High Pressure Pipelines	30
High Voltage Power Lines	0
Local Transmission Power Lines	0

15. No equipment, only foot traffic laying receiver lines, will be used in swampy/wetland areas.

**H-3150-1 –ONSHORE OIL AND GAS GEOPHYSICAL EXPLORATION
SURFACE MANAGEMENT REQUIREMENTS (PUBLIC)**

16. If any unanticipated prehistoric or historic archaeological sites or paleontological sites are encountered during the geophysical work, the work shall stop and the appropriate BLM archaeologist at the Field/District Office will be contacted. If a site is found, it will be recorded. The BLM will assume responsibility for evaluation and determination of significance, related to the historical or archaeological site. All known cultural resources sites will be avoided. Collection of any cultural or paleontological artifacts, bones or fossils from Federal lands is specifically prohibited.

17. Visible migratory bird nests will be avoided and not disturbed.

18. All equipment will be power washed prior to entering Federal lands to help mitigate the spread of noxious plants.

19. In order to minimize watershed damage and disturbance to game animals utilizing important seasonal wildlife habitat, seismic activity will only be allowed during the period from May 15 to December 15. Exceptions to this limitation may be specifically approved by the authorized officer.

20. When fire conditions reach high, the helicopter, vehicles, and equipment will carry water, shovels, and other fire fighting equipment to extinguish any fires that are accidentally started by the seismic operations.

21. If oil, lubricants and other petroleum or man-made products are accidentally spilled onto the ground surface, the BLM will be contacted and provided specific information about the spill and/or leak. Spills or leaks will be cleaned from the soil and any contaminated material will be bio-remediated or disposed of at an authorized landfill.

22. All flagging, lath, pin flags, and similar materials used in the seismic project will be removed from public land and disposed of at an authorized landfill.

23. All Applicant-Committed Environmental Protection Measures documented in the applicant's NOI will be complied with in addition to these terms and conditions.